MADISON OVERPASS

Pedestrian Improvements Study

Prepared by Seattle Department of Planning and Development

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Guiding Principles

Restoring neighborhood connections and civic functions from the east and west sides of the I-5 freeway has long been a goal of the city of Seattle. While most dramatically exhibited in Freeway Park, the opportunity exists to forge better connections at all of the existing overpasses crossing over I-5. This study focuses on the Madison Street overpass in an attempt to provide an improved sidewalk and pedestrian experience bridging the I-5 cut to tie Downtown and First Hill together. This study does not propose a new lid or bridge, but rather a retrofit of an existing structure, and consideration of how an underutilized parking lane could be used as additional pedestrian space. The result of this study is two design schemes exploring unique approaches to retrofitting the bridge. The following guidelines have shaped both the proposed design schemes:

- Work within the realities and the design aesthetic of the existing 1960s bridge.
- Buffer pedestrians from a currently hostile environment of freeway noise and the bridge edge.
- Provide separation from vehicle lanes on the bridge.
- Take advantage of view opportunities, particularly to the south, reaching to Mt. Rainier.
- Allow the bridge to read as a gateway to the city to motorists arriving from the south while maintaining highway safety standards.
- Develop strategies that are transferable to other overpasses in downtown and beyond.
- Develop strategies that can be phased in time and investment.

The Details

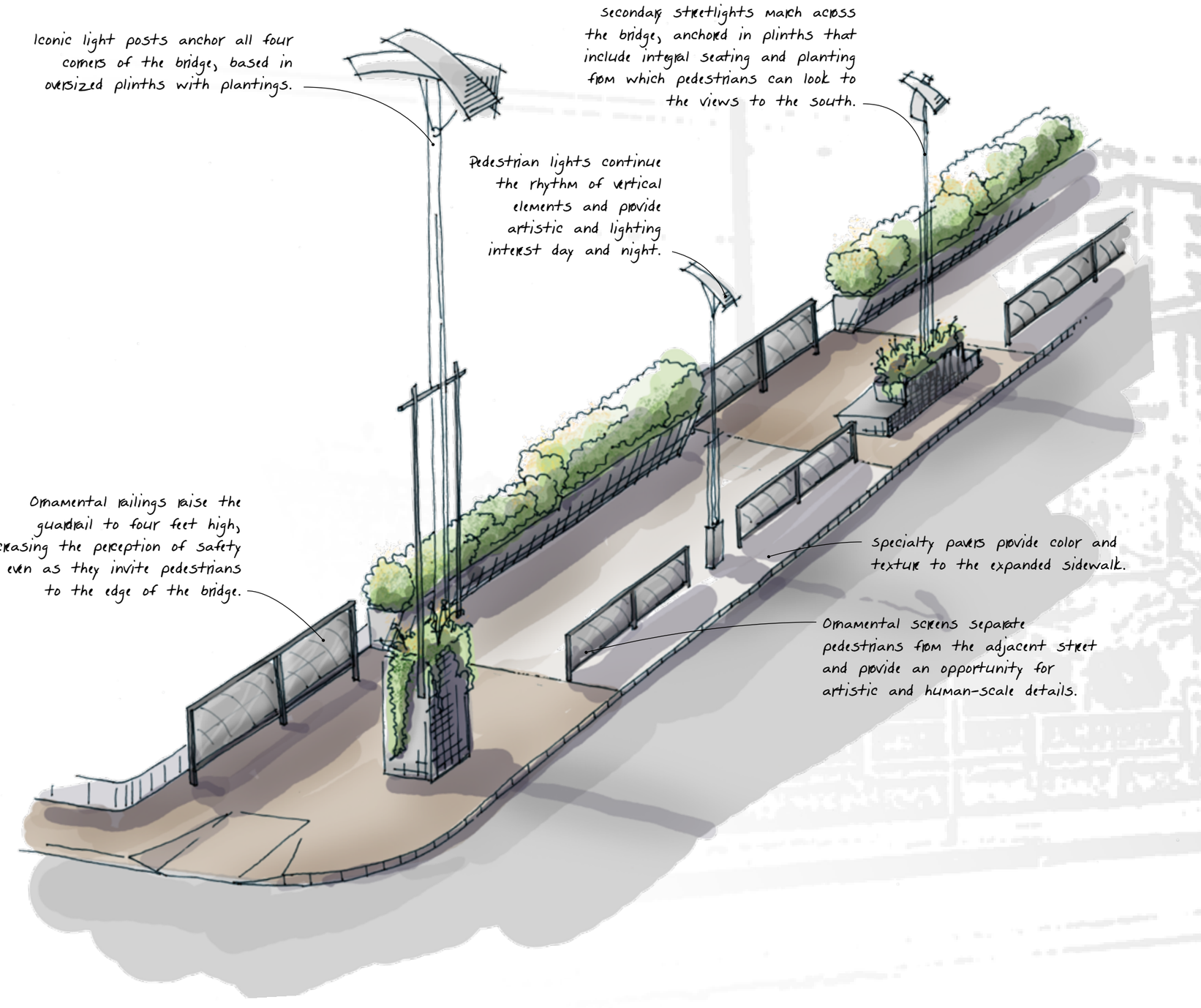
The design schemes represent the full build-out of the schemes. However, both can be implemented to a lesser degree (and cost) and allow for phasing over time. The design intents of the two schemes are noted on the following pages.

The following are parameters considered in both schemes:

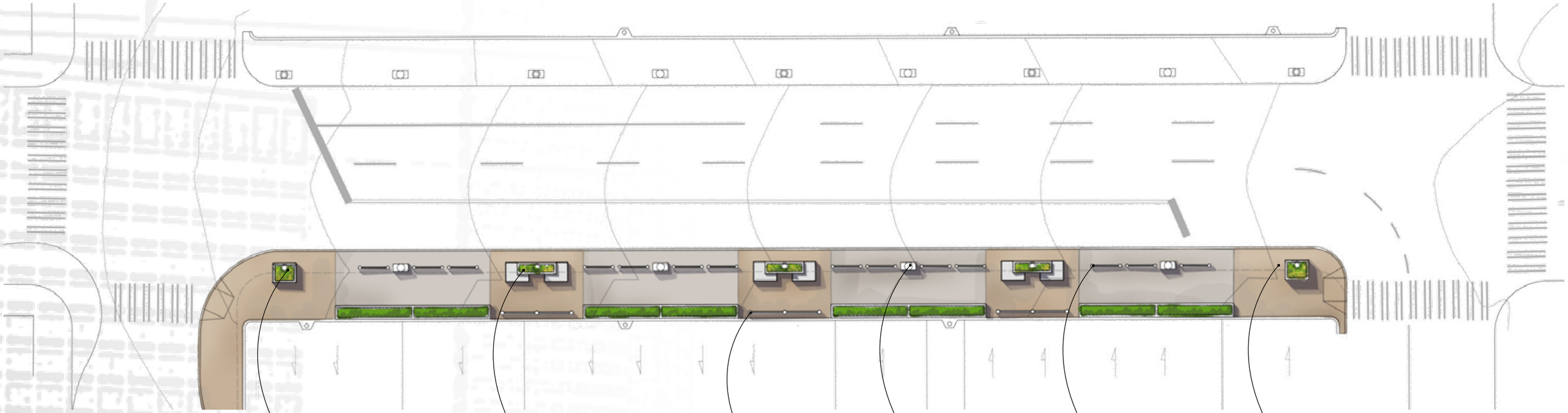
- Adhere to SDOT standards, notably maintaining a 3’6” zone starting at face of the curb that is free of constructed vertical obstructions.
- Consider and limit weight impacts including shallow soil depths, providing increased depths only as horticulturally necessary. While structural and weight analyses of these proposals have not been completed, the designs are assumed to be conservative in their structural/weight demands relative to the design loads associated with the bridge and the parking lane being removed. Structural review will be key in future development of these proposals.
- Design details and costs are preliminary, relying heavily on allowances. Given the complexity of retrofitting a 1960-era structure, as well as the very early level of design, a large design contingency has been included in the cost estimates.

CIVIC BRIDGE

The Civic Bridge scheme highlights the Madison Overpass as a bridge through the introduction of repeated architectural elements of civic scale and character. These elements include a hierarchy of new lights that not only meet street lighting needs but provide an enhanced pedestrian experience and separation from the adjacent vehicular lanes. The character of these elements is appropriately matched to the simple horizontal concrete massing of the bridge, yet also provides the opportunity for details and finishes that enrich the pedestrian experience. The Civic Bridge alternative places large planters along the existing guardrail edge, buffering pedestrians from the freeway below and creating a linear pedestrian flow adjacent to Madison Street, while repeating elements and screens separate pedestrians and traffic. Three breaks in the edge planters provide overlooks and views to the south, anchored with large plinths that provide seating and planters. A key to successfully implementing the bridge concept is to mirror the vertical elements and plinths (scaled down to match the narrower sidewalk) on the north side of the crossing to provide the sense of balance, symmetry and formality required to make an appropriately scaled civic statement.



CIVIC BRIDGE



Iconic light posts anchor all four corners of the bridge, based in oversized plinths with plantings.

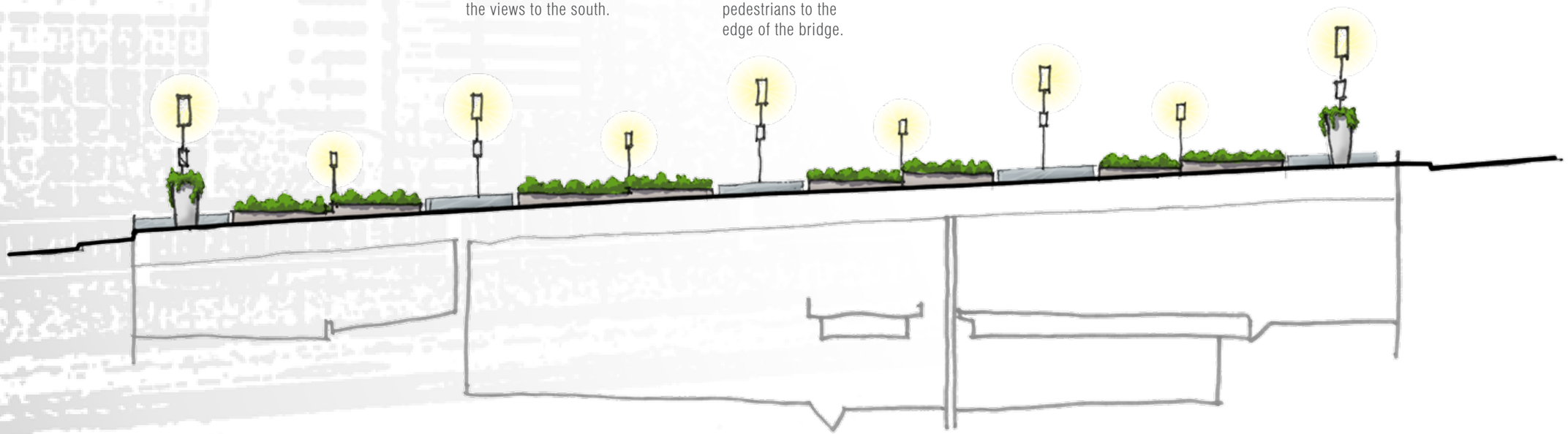
Secondary streetlights march across the bridge, anchored in plinths that include integral seating and planting from which pedestrians can look to the views to the south.

Ornamental railings raise the guardrail to four feet high, increasing the perception of safety even as they invite pedestrians to the edge of the bridge.

Pedestrian lights continue the rhythm of vertical elements and provide artistic and lighting interest day and night.

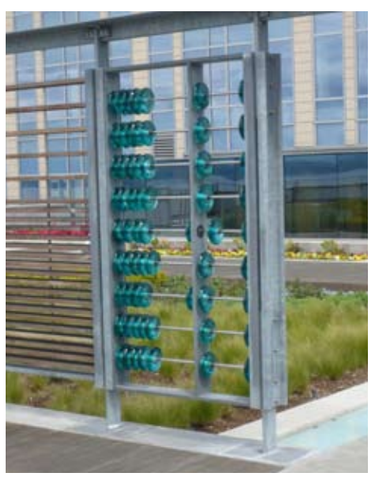
Ornamental screens separate pedestrians from the adjacent street and provide an opportunity for artistic and human-scale details.

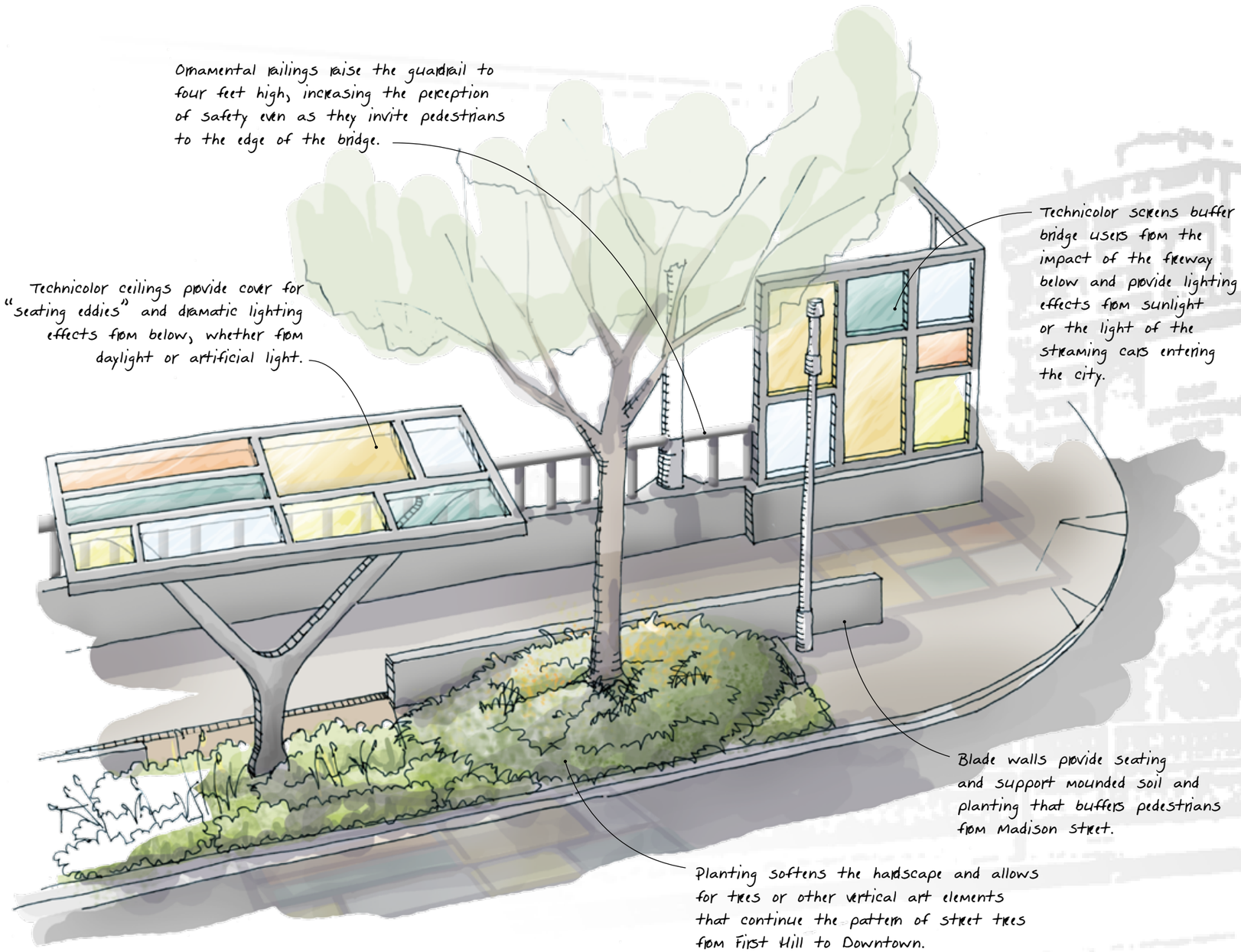
Specialty pavers provide color and texture to the expanded sidewalk.

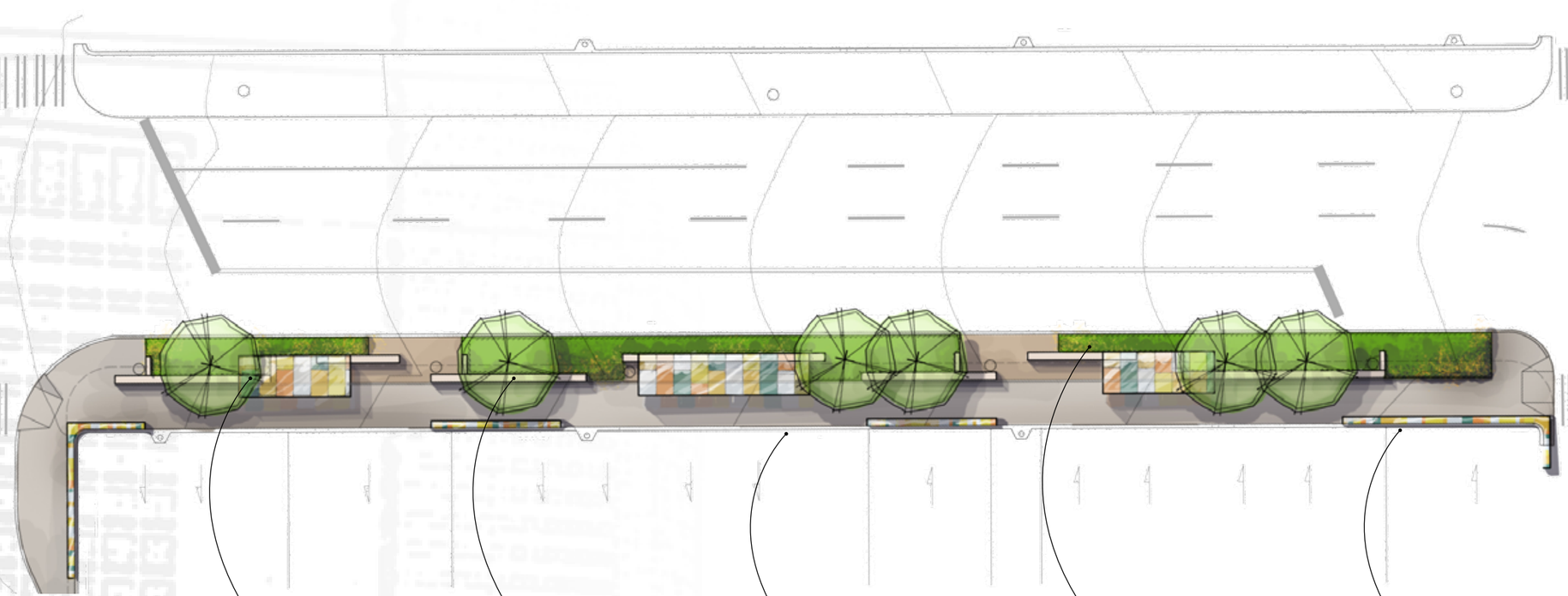


GREEN STREET

The Green Street scheme extends planting across the Madison Bridge, tying street trees and open spaces on both sides of the bridge together. As the plantings soften the surrounding urban streetscape, they also buffer pedestrians on the bridge from the adjacent traffic of Madison Street, instead emphasizing the bridge edge and the views beyond. While primary pedestrian traffic is a direct line along the existing edge of the bridge, three “eddies” provide areas for pause and gathering, with cover, seating and specialty paving. Planting areas include blade walls that double as seats, introducing the interest of topography and also allowing deeper soils for possible trees (or other artistic vertical elements) that can march across the bridge. Vertical translucent screens (matching the overhead canopies) buffer pedestrians from the freeway below and provide lighting interest at night from the never-ending stream of car lights on the road below. In addition to buffering those on the bridge, the rhythm of the screens figuratively continues the rhythm of storefronts and buildings that stretch to the west and east of the bridge. The Green Street lends itself to being successful with implementation on only the southern half of the bridge, while similar, simpler improvements to the north side could still greatly improve that pedestrian experience as well.







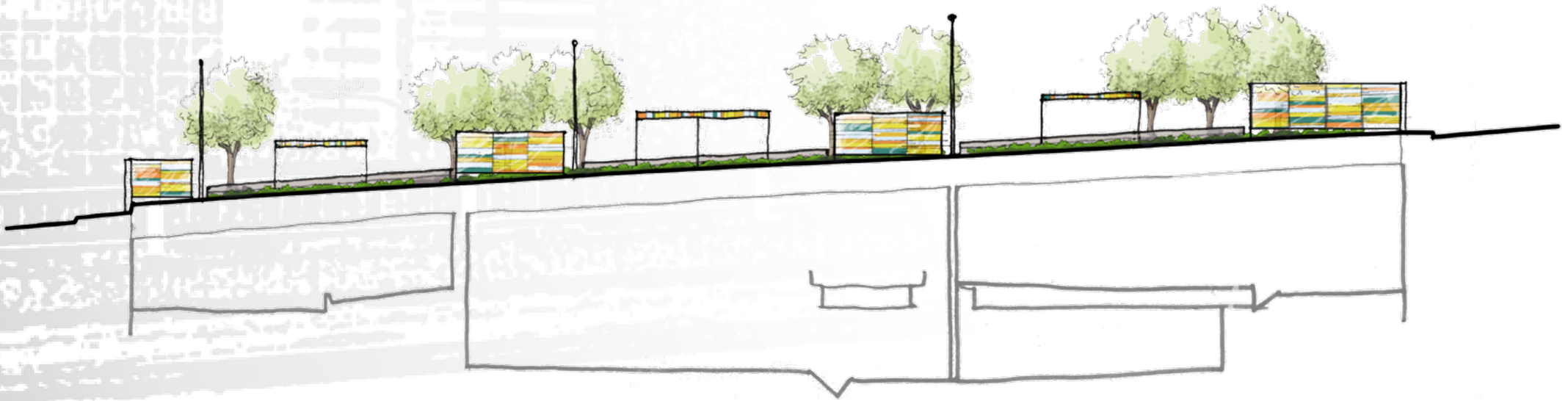
Technicolor ceilings provide cover for “seating eddies” and dramatic lighting effects from below, whether from daylight or artificial light.

Blade walls provide seating and support mounded soil and planting that buffers pedestrians from Madison Street.

Ornamental railings raise the guardrail to four feet high, increasing the perception of safety even as they invite pedestrians to the edge of the bridge.

Planting softens the hardscape and allows for trees or other vertical art elements that continue the pattern of street trees from First Hill to Downtown.

Technicolor screens buffer bridge users from the impact of the freeway below and provide lighting effects from sunlight or the light of the streaming cars entering the city.



madison overpass

Project: Madison Overpass, Bridge Scheme — Date: 3/11/2009

Description:	Quantity	Unit	Unit Cost	Total

Note: for the Bridge scheme, this cost estimate assumes both south and North sides of the bridge are upgraded per the plan.

Site Demolition				
CIP concrete paving (4" thickness)	1,650	SF	6.00	9,900.00
CIP concrete curb	160	LF	6.00	960.00
Saw-cutting CIP concrete (4" thickness)	15	LF	8.00	120.00
Modify Drainage at catch basins	2	EA	5,000.00	10,000.00
Planter removal (both sides)	12	EA	800.00	9,600.00
Remove exist light poles	6	EA	500.00	3,000.00
			Site Demolition Subtotal	33,580.00
New Construction				
New 6" CIP curb	375	LF	20.00	7,500.00
New specialty paving (concrete pavers)	2,800	SF	10.00	28,000.00
New CIP concrete paving	1,150	SF	20.00	23,000.00
Waterproofing	1	Allow	15,000.00	15,000.00
Icon light elements (south)	2	EA	15,000.00	30,000.00
Icon light elements (north)	2	EA	13,000.00	26,000.00
Street light elements (north and south)	6	EA	7,000.00	42,000.00
Street light element planter base (south)	3	EA	8,000.00	24,000.00
Street light element planter base (north)	3	EA	3,000.00	9,000.00
Pedestrian lights (north and south)	8	EA	3,000.00	24,000.00
Ornamental metal Screens (North and south)	32	SF	6,000.00	192,000.00
Ornamental metal guardrails (South only)	3	SF	5,000.00	15,000.00
Electrical (allowance)	1	Allow	40,000.00	40,000.00
Planters at Guardrail (south only)	160	LF	120.00	19,200.00
Drip irrigation	525	SF	4.00	2,100.00
Controller (commercial,)	1	Allow	8000.00	8,000.00
2" Meter (provided by municipality?)	1	Allow	5000.00	5,000.00
POC (DCVA, Master valve, vaults, etc.; assumes 2" connection)	1	Allow	5000.00	5,000.00
Shrubs (soil, plants and mulch))	525	SF	15.00	7,875.00
			New Construction Subtotal	522,675.00
			Project Subtotal	556,255.00
			Design Contingency (30%) *1	$166,876.50
			Project Subtotal	$723,131.50
			General Conditions (12%)	$86,775.78
			Subtotal	$809,907.28
			Contractor Overhead (8%)	$64,792.58
			Subtotal	$874,699.86
			Contractor Profit (11%)	$96,216.98
			TOTAL Construction Contract Amount	$971,000.00

Not including Sales tax, Design Fees or Permit Fees.

Project: Madison Overpass, Bridge Scheme | Date: 3/11/2009

Description:	Quantity	Unit	Unit Cost	Total

#1 - Design contingency is a reflection of the level of design on which the PCC is based. This contingency is an allowance to reflect unforeseen or non-quantifiable elements of the project that will be incorporated during subsequent design development work. This contingency is higher in the early phases of design and gets lower as the design approaches completion. This is not a bid contingency or an owner construction contingency. For this project, we would recommend a high design contingency of 20% given the early nature of the design and complexities of construction a 1960's era structure.

Project: Madison Overpass, Green Street | Date: 3/13/2009

Description:	Quantity	Unit	Unit Cost	Total
Note: for the Bridge scheme, this cost estimate assumes both south and North sides of the bridge are upgraded per the plan.				
Site Demolition				
CIP concrete paving (4" thickness)	1,100	SF	6.00	6,600.00
CIP concrete curb	350	LF	6.00	2,100.00
Saw-cutting CIP concrete (4" thickness)	15	LF	8.00	120.00
Modify Drainage at catch basins	2	EA	5,000.00	10,000.00
Planter removal (both sides)	12	EA	800.00	9,600.00
Remove exist light poles	6	EA	500.00	3,000.00
			Site Demolition Subtotal	31,420.00
New Construction				
New 6" CIP curb	375	LF	20.00	7,500.00
New specialty paving (concrete pavers)	600	SF	10.00	6,000.00
New CIP concrete paving	650	SF	20.00	13,000.00
Waterproofing	1	Allow	30,000.00	30,000.00
Cheek Wall	600	FF	60.00	36,000.00
Colored Screen, canopy	550	FF	200.00	110,000.00
Colored Screens, vertical wall	900	LF	200.00	180,000.00
Trench Drain	265	LF	50.00	13,250.00
Pedestrian lights	6	EA	3,000.00	18,000.00
Electrical (allowance)	1	allow	40,000.00	40,000.00
Drip irrigation	1,500	SF	4.00	6,000.00
Controller (commercial,)	1	Allow	8000.00	8,000.00
2" Meter (provided by municipality?)	1	Allow	5000.00	5,000.00
POC (DCVA, Master valve, vaults, etc.; assumes 2" connection)	1	Allow	5000.00	5,000.00
Shrubs (soil, plants and mulch))	1,500	SF	15.00	22,500.00
			New Construction Subtotal	500,250.00
			Project Subtotal	531,670.00
			Design Contingency (30%) *1	$159,501.00
			Project Subtotal	$691,171.00
			General Conditions (12%)	$82,940.52
			Subtotal	$774,111.52
			Contractor Overhead (8%)	$61,928.92
			Subtotal	$836,040.44
			Contractor Profit (11%)	$91,964.45
			TOTAL Construction Contract Amount	$928,000.00

Not including Sales tax, Design Fees or Permit Fees.

Project: Madison Overpass, Green Street				Date: 3/13/2009
Description:	Quantity	Unit	Unit Cost	Total

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